

Exploring the Commercial Potential for Biomass Boilers in Montana

Montana Communities & Wildfire Conference

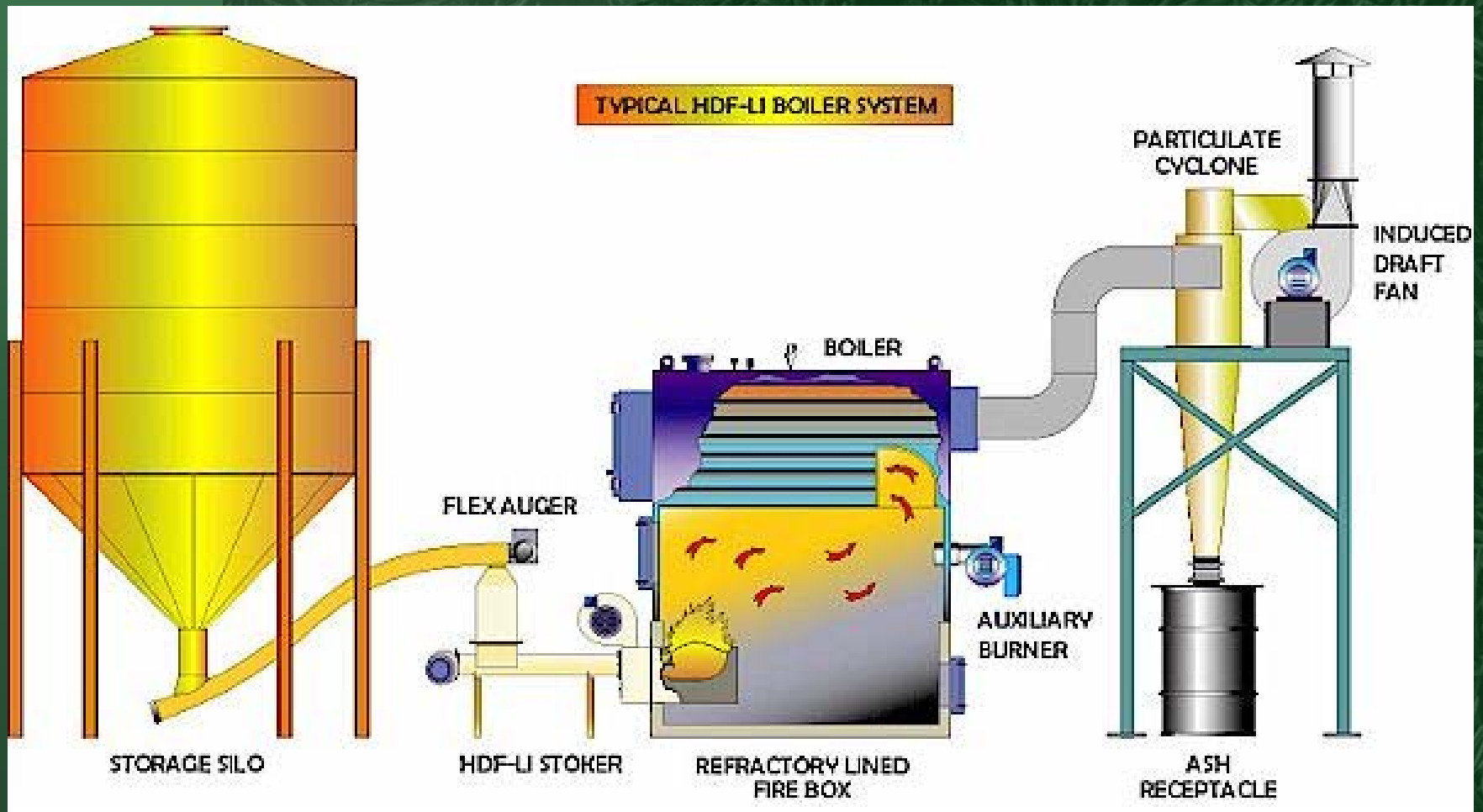
March 1, 2006

Presented by:
Denise DeLuca, P.E.



*Billings Boise Bozeman Missoula Great Falls Kalispell
Helena Jackson Livingston Austin Seattle*

What is a biomass boiler?



How much biomass do we have?

- 2 million tons of wood biomass are burned in slash piles each year in Montana
 - As wood chips, they would fill one football field almost two miles high



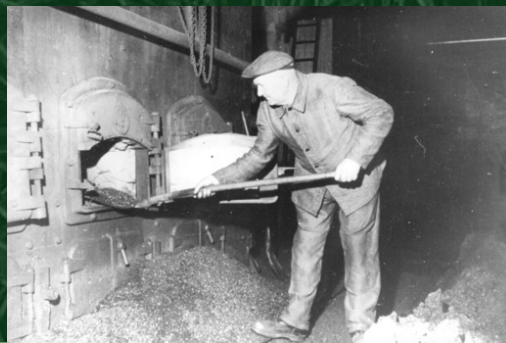
Why are biomass boilers good?

- Use it rather than burn it
 - Reduce smoke
 - Reduce cost of thinning
 - Provide local fuel source
 - Save on heating bills
 - Create local jobs
 - Create business opportunities



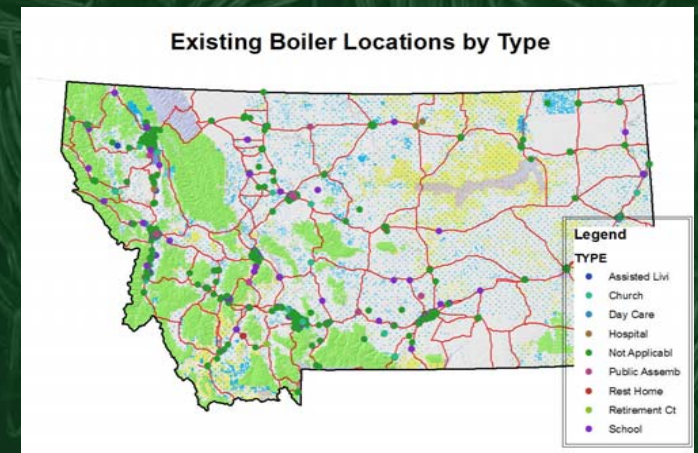
What is the market potential for biomass boilers in Montana?

- Assessment Study
 - analyzed database of boilers in Montana
 - estimated potential size and scope of wood-fired boiler market
 - *Convert existing boilers to biomass boilers*
 - *Pay for biomass boiler with annual fuel savings*



How many boilers are in Montana?

- 7,239 boilers in Montana
 - 60% are <1 mmBTU/hr (small)
 - 89% burn natural gas
 - Natural gas: \$11.00/dka
 - Wood chips: \$ 3.24/dka
 - 62% are < 20 yrs old
 - 2,000 are in:
 - schools
 - hospitals
 - rest homes



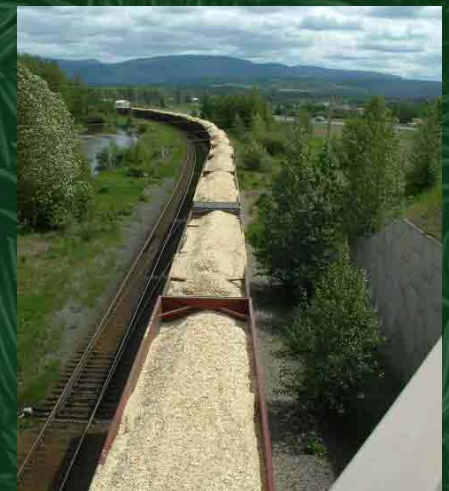
How many boilers could be converted?

- When boilers need to be replaced
 - 2,567 boilers with payback <15 yrs
 - \$650 million to replace
 - 367 are > 30 yrs old
 - \$90 million to replace
- When boilers *don't* need to be replaced
 - 79 boilers with payback <15yrs
 - All are electric
 - Almost all are small
 - \$25 million to replace



What are the next steps?

- Share information with marketplace
- Seek feedback from marketplace
- Engage key stakeholders
- Explore additional partnerships, drivers, and opportunities
- Compare wood resources with boiler candidates



What are we doing now?

- Biomass Boiler Market Assessment
 - Methods for improving financial attractiveness
 - Refine identification of customer base
 - Explore potential for boilers in new construction
 - Share information and solicit feedback from
 - potential customers
 - manufacturers



What can you do?

- Work with your State FFS coordinator to identify candidates for boiler conversion
- Share information with
 - local RC&Ds
 - local wood products industry
 - facility owners
 - boiler manufacturers
- Create partnerships
- Make your biomass projects happen!



Thank you

- Any questions?

Denise DeLuca, PE

(406) 728-9522

denised@ctagroup.com

